# Laucks Testing Laboratories, Inc.

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Certificate

940 South Harney St., Seattle, Washington 98108 (206)767-5060

Chemistry, Microbiology, and Technical Services

CLIENT: Lockheed Shipbuilding

2929 16th Avenue SW Building 120

Seattle, WA 98134 ATTN: John Lane LABORATORY NO: 97794

DATE: August 5, 1986

PO# DM6P399B

REPORT ON: WATER

SAMPLE

IDENTIFICATION: Submitted 7/17/86 and identified as shown below:

1) Yd 1 North 7/16 J. Lane

2) Yd 1 South 7/16 J. Lane

3) Yd 2 East 7/16 J. Lane

4) Yd 2 West 7/16 J. Lane

TESTS PERFORMED AND RESULTS:

parts per million (mg/L)

	1	2 3	4
Oil & Grease (by IR)	4.4	4.1 4.0	4.7
Arsenic	0.009	0.007 L/0.0	0.015
Cadmium	0.004	L/0.002 L/0.0	02 L/0.002
Lead	0.05	0.03 0.0	4 0.02
Zinc	0.30	0.32 0.3	6 0.38
Copper	0.065	0.070 0.0	76 0.060
Chromium	L/0.005	L/0.005 L/0.0	0.007

Key

L/ = less than

Respectfully submitted,

Laucks Testing Laboratories, Inc.

G.M. Owens

s report is submitted for the exclusive use of the person, partnership, or corporation to whom it is addressed. Subsequent use of the name of this company or any most of use staff in connection with the advertising or sale of any product or process will be granted only on contract. This company accepts no responsibility except the due performance of inspection and/or analysis in good faith and according to the rules of the trade and of science.



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Chemistry, Microbiology, and Technical Services

CLIENT Lockheed Shipbuilding

2929 16th Avenue S. W. Seattle, WA 98134

Attn: John Dislers

76060 LABORATORY NO.

DATE March 19, 1982

P. O. #FKM4X357B

LIQUID WATER SAMPLES FROM SHIPWAY NO. 8

INDENTIFICATION

**TESTS PERFORMED** 

AND RESULTS:

Submitted 3-12-82 and marked as follows:

B-50 East 1) Shipway #3

2) B-50 West Shipway #3

B-65 East 3) Shipway #3

B-65 West 4) Shipway #3

5) B-65 West 12" down Shipway #3

6) B-80 East Shipway #3

B-80 West Shipway #3 7)

This material was analyzed in accordance with 40 CFR 261.24 for EP Toxicity with results as follows:

#### concentration, mg/L

	1	2	3	4
Arsenic Barium Cadmium Chromium Lead Mercury Selenium	<.2 1 .03 <.1 <.1 <.003 <.1	<.2 <1 <.02 <.1 <.1 <.003 <.1	<.2 <1 .02 <.1 <.1 <.003 <.1	<.2 <1 <.02 <.1 <.1 <.03 <.1 <.1 <.1
Silver	<.1 5	<.1 6	7	<.1 Max.
Arsenic Barium Cadmium Chromium Lead Mercury	<.2 <1 <.02 <.1 <.1 <.03	<.2 <1 .02 <.1 <.1 <.1 <.003	<.2 <1 .02 <.1 <.1 <.003	5.0 100 1.0 5.0 5.0





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Lockheed Shipbuilding

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concentration, mg/L

5	6	7	Max.
<.1	<.1	<.1	1.0
<.1	<.1	<.1	5.0

Key

Selenium silver

< denotes "less than"</pre>

Respectfully submitted,

LAUCKS TESTING LABORATORIES, INC.









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Chemistry, Microbiology, and Technical Services

CLIENT Lockheed Shipbuilding 2929 16th Avenue S. W.

Seattle, WA 98134

Attn: Ed Cifra

LABORATORY NO. 75844

DATE Feb. 24, 1982

P.O. #FKM4X357B

REPORT ON

WATER

SAMPLE INDENTIFICATION

Marked:

PLATE BUNNING TANKS, YOLI 1) Tank 1 ONC. BURNER 2) Tank 2

TESTS PERFORMED AND RESULTS:

	1 2	MCL*
pH, glass electrode at 25°C	6.6 6.7	5.5 or greater
	parts per millio	<u>on</u>
Cadmium Chromium Lead Nickel Silver Zinc Copper Mercury Arsenic Cyanide	<pre></pre>	6 3 6 1 5 3 1 0.1

<sup>\*</sup>maximum contamination level per METRO

Key

Respectfully submitted,

< denotes "less than"</pre>

LAUCKS TESTING LABORATORIES, INC.



Certificate

LABORATORY NO. 79347

DATE Feb. 18, 1983

P.O. #FKM6U228B

Chemistry Microbiology, and Technical Services

CLIENT Lockheed Shipbuilding

2929-16th Avenue S. W. Seattle, WA 98134

ATTN: John Hillner

Yard 1, Trailer 1

REPORT ON

LIOUIDS

SAMPLE IDENTIFICATION 1

Marked:

Plate Burning Tank
 Plate Burning Tank

Plate Burning Tank (submitted 2-14-83)

nk Yard 2 (submitted 2-16-83)

TESTS PERFORMED AND RESULTS:

This material was analyzed in accordance with 173-303 WAC, State of Washington, Department of Ecology with results as follow.

#### concentration, mg/L

	1	2	MCL*
Arsenic	<0.2	<0.2	5.0
Barium	1	<0.5	100.
Cadmium	<0.02	<0.02	1.0
Chromium	<0.1	<0.1	5.0
Zinc	<0.05	<0.05	100.
Lead	<0.2	<0.2	5.0
Mercury	<0.05	<0.05	0.2
Selenium	<0.2	<0.2	1.0
Silver	<0.1	<0.1	5.0

<sup>\*</sup>maximum contamination level

Key

< denotes "less than"

Respectfully submitted,

LAUCKS TESTING LABORATORIES, INC.

M. Owens

JMO:ks



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Chemistry, Microbiology, and Technical Services

CLIENT Lockheed Shipbuilding 2929 16th Avenue S. W. Seattle, WA 98134 Attn: John Dislers LABORATORY NO. 76000

DATE March 15, 1982

REPORT ON LIQUID

SAMPLE INDENTIFICATION

Marked: N. C. Burner Tanks

TESTS PERFORMED AND RESULTS:

This material was analyzed in accordance with 40 CFR 261.24 for EP Toxicity with results as follows:

	concentration, mg/L	Maximum concentration, mg/L
Arsenic	<.05	5.0
Barium	4	100
Cadmium	.04	1.0
Chromium	<0.1	5.0
Lead	0.1	5.0
Mercury	<.005	0.2
Selenium	<.05	1.0
Silver	<0.1	5.0

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LAUCKS TESTING LABORATORIES, INC.

ர். M. Owens

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# Laucks Testing Laboratories, Inc.

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940 South Harney St., Seattle, Washington 98108 (206)767-5060

Chemistry, Microbiology, and Technical Services

CLIENT

Lockheed Shipbuilding Co.

2929-16th Avenue SW Seattle, WA 98134

ATTN: Gregory J. Metzcus

REPORT ON WATER

LABORATORY NO.

93352-2 rev.

DATE

Nov. 14, 1985

PO# FDM6P399B

SAMPLE IDENTIFICATION Submitted 10/09/85 and identified as shown below:

\*Storm Water Sewer Traps Yards 1 & 2 9/27/85

TESTS PERFORMED AND RESULTS:

parts per million (mg/L)

Oil & Grease	320.
Total Copper	2.8
Total Lead	8.0
Total Arsenic	0.93
Total Zinc	2.2
Total Nickel	0.90
Total Chromium	0.91
Total Cadmium	0.13
Total Mercury	0.009

Samples were anlayzed for E.P. Toxicity using Method 1310, Test Methods for Evaluating Solid Wastes, U.S.E.P.A., July, 1982. Metals analysis were performed using the 7000 series of methods.

#### parts per million (mg/L)

	Sample .	MCL
Zinc	0.4	DO 100 TO
Arsenic	<0.2	5.0
Cadmium	<0.01	1.0
Chromium	<0.1	5.0
Copper	<0.1	
Lead	<0.1	5.0
Mercury	<0.005	0.2
Nickel	<0.1	







Chemistry, Microbiology, and Technical Services

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LABORATORY NO. 93352-2 rev.

Lockheed Shipbuilding Co.

Key

< indicates "less than"

MCL = Maximum Contamination Level per current E.P.A. and State of Washington regulation.

\* These marks represented five bottles which were composited into one sample.

Note: Gamples mistakenty composited by Laboratory

J. Lane

8:2487

Respectfully submitted,

Laucks Testing Laboratories, Inc.

ð. M. Owens

JMO:1aj



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Chemistry, Microbiology, and Technical Services

Lockheed Shipbuilding CLIENT:

2929 16th Avenue SW Building 120

Seattle, WA 98134 ATTN: John Lane

LABORATORY NO: 97794

DATE: August 5, 1986

PO# DM6P399B

REPORT ON: WATER (STORM WATER PARTILULATE TRAPS)

SAMPLE

IDENTIFICATION: Submitted 7/17/86 and identified as shown below:

Yd 1 North 7/16 J. Lane

Yd 1 South 7/16 J. Lane

Yd 2 East 7/16 J. Lane

Yd 2 West 7/16 J. Lane

TESTS PERFORMED AND RESULTS:

parts per million (mg/L)

	1	2	3	4
Oil & Grease (by IR)	4.4	4.1	4.0	4.7
Arsenic	0.009	0.007	L/0.005	0.015
Cadmium	0.004	L/0.002	L/0.002	L/0.002
Lead	0.05	0.03	0.04	0.02
Zinc	0.30	0.32	0.36	0.38
Copper	0.065	0.070	0.076	0.060
Chromium	L/0.005	L/0.005	L/0.005	0.007

Key

L/ = less than

Respectfully submitted,

Laucks Testing Laboratories, Inc.

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# Testing Laboratories, Inc.

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940 South Harney St., Seattle, Washington 98108 (206)767-5060

Chemistry, Microbiology, and Technical Services

CLIENT: Lockheed Marine

2929 16th Avenue SW Seattle, WA 98134

ATTN: Greg Metzcus

WASTE SLUDGE NC BURNEN TANKS

LABORATORY NO. 92592

DATE:

SEPT. 11, 1985

P.O.#

FDM 6 P399B

SAMPLE

REPORT ON:

Submitted 8/22/85 and identified as shown below:

IDENTIFICATION:

Sample of 5 drums from wheelabrator 8/16/85 taken by Tom Gowdy.

TESTS PERFORMED AND RESULTS:

> The 96 hour static fish bioassay was performed in accordance with Washington State Department of Ecology methods, with results as shown below:

> > 96 HOUR STATIC FISH BIOASSAY

Description of Waste

Description of Test Set Up

The test was performed in triplicate at each concentration in 10 gallon glass aguaria (8" x 10" x 14") containing 30 liters of water. The water used in the test was tap water with a hardness of about 110 mg/L. Light was provided with fluorescent lamps for 18 hours per day. All test and control aquaria contained 10 organisms. All tanks were aerated during the first 24 hours of the test period; no further aeration was made during the 96 hour test period. The test was started on 09/02/85. The waste was added to the tanks directly.

#### Information About Test Organisms

Species:

Pimephales promelas (fathead minnow)

Mean Weight:

Ratio of flesh to water:

Lengths (in mm):

0.60 grams

0.20 grams/L mean 3.6 cm

longest 4.2 cm

shortest 3.0 cm

Ratio (long/short):

1.4 None

Diseases observed:

None required

Disease treatment: Source of test organisms:

Kurtz Fish Hatchery

History: Food used:

Acclimated at least 2 weeks prior to test Wardley's dry flake food for large cichlids







Chemistry, Microbiology, and Technical Services

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Lockheed Marine

LABORATORY NO. 92592

#### Test Results

Observations of effects or symptoms: No visible stress observed.

Mortalities observed in 30 test organisms:

	<u>Mortalities</u>	%
1000 parts per million	9	30.
100 parts per million	6	20.
control	2	7.

Water chemistry results: mean +/- standard deviation

	1000 ppm	100 ppm	control
Dissolved Oxygen, mg/L	7.2+-1.8	8.0+-1.2	7.8+-1.3
pH	7.3+-1.8	1.3+-2.0	7.3+-0.19
Temperature, C	22.+-0.	22.+-0.	22.+-0.
Hardness, mg/L	110+-5.2	110+-0.	120.+-0.
Alkalinity, mg/L	25.+-2.4	24.+-1.5	24.+8
Conductivity, micromhos/cm	240.+-14.	240.+-12.	240+-12

Test organisms were acclimated at 22 C.

#### Test Methods Used for Water Chemistry

Dissolved Oxygen pH	SM*, part 421B SM*, part 423
Total Hardness	SM*, part 314B
Total Alkalinity	SM*, part 403
Specific Conductance	SM*, part 205

\*SM = Standard Methods, 15th edition







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Chemistry, Microbiology, and Technical Services

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LABORATORY NO. 92592

Lockheed Marine

#### Conclusions

Based on an evaluation of test mortalities (corrected for control mortality), this waste would be classified as undesignated waste.

Respectfully submitted,

Laucks Testing Laboratories, Inc.

J.M. Owens

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